REMARKS/ARGUMENTS

Reconsideration and allowance of this application are respectfully requested. Currently, claims 1 and 4-8 are pending in this application.

Rejection Under 35 U.S.C. §103:

Claims 1 and 4-6 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Applicant admitted prior art, Tanaka et al (JP '186, hereinafter "Tanaka") and Sasaki (U.S. '798). Applicant respectfully traverses this rejection.

In order to establish a prima facie case of obviousness, all of the claim limitations must be taught or suggested by the prior art. The combination of Applicant admitted prior art, Tanaka and Sasaki fails to teach or suggestion all of the claim limitations. For example, the combination fails to teach or suggest a resistor circuit configured to adjust a rate of a temperature change of a collector current of a first bipolar transistor, the resistor circuit including a first resistance element for adjusting the collector current of the first bipolar transistor and a second resistance element for adjusting a collector current of a second bipolar transistor, as required by independent claim 1. Independent claim 4 requires similar features.

According to the invention of independent claims 1 and 4, a resistance value of each of the first and second resistance elements is appropriately set in order to adjust each collector current of the first and second bipolar transistors. By making use of the fact that the temperature characteristic of the bipolar transistor is changed depending on the collector current, a rate of change of the collector current of each bipolar transistor when ambient temperature changes can be adjusted.

In addition, as the temperature characteristic of the first bipolar transistor is stabilized by the temperature characteristic compensating circuit, the rate of temperature change of the collector current of the first bipolar transistor can be adjusted in a stable manner from 0 to any value via the resistor circuit including the first and second resistance elements. Consequently, the rate of temperature change of the drain voltage of the transistor performing frequency conversion can be adjusted in a stable manner from 0 to any value.

The invention of independent claim 1 provides the advantage of stabilizing gain characteristic in the entire LNB. For example, the drain voltage is given an appropriate temperature characteristic, so that variation in a conversion gain of a mixer dependent on the temperature characteristic of oscillation intensity of the local oscillator can be cancelled.

In contrast, the combination of Applicant admitted prior art, Tanaka and Sasaki fails to teach or suggest "resistor circuit configured to adjust a rate of temperature change of a collector current of the first bipolar transistor." Accordingly, Applicant respectfully requests that the rejection of claims 1 and 4-6 under 35 U.S.C. §103 be withdrawn.

New Claims:

New claims 7-8 have been added to provide additional protection for the invention. Claims 7 and 8 depend from base independent claims 1 and 4, respectively, and thus Applicant submits that these claims are allowable for at least the reasons discussed above.

Conclusion:

Applicant believes that this entire application is in condition for allowance and respectfully requests a notice to this effect. If the Examiner has any questions or believes that an interview would further prosecution of this application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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